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**ANATOMY RESEARCH DEVELOPMENT AWARD**

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**Project Resume Form 2024/25 at the start of the project for publicity**

**Brief Résumé of your Project for the Society’s Website**:

*The title of your project and a brief 200-250 word description of the project. The description should include sufficient detail to be of general interest to a broad readership including scientists and non-specialists. Please also try to include 1-2 graphical images (minimum 75dpi) of can be included on the site next to your abstract. Colourful, impressive graphics will further enhance the site.*

*NB: Authors should NOT include sensitive material or data that they do not want disclosed at this time.*

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| Title: **Understanding the neuroanatomy of the inflammatory skin disease hidradenitis suppurativa**Description:The skin is a complex organ that serves as both a physical barrier and an active immune interface, constantly interacting with external environmental factors. A fascinating and critical aspect of this functionality is the interplay between the peripheral nervous system (PNS) and the immune system within the skin. This dynamic relationship enables the skin to maintain homeostasis, respond to injury, and combat pathogens.Hidradenitis suppurativa (HS) is a chronic, inflammatory skin condition characterized by recurrent, painful nodules, abscesses, and sinus tracts, primarily in areas rich in apocrine glands, such as the axillae, groin, and perianal regions. The immune system plays a central role in the pathogenesis of HS, driving the persistent inflammation and tissue damage observed in the disease.The immune dysfunction in HS is multifaceted. It involves an aberrant innate immune response, including hyperactivation of keratinocytes and the release of pro-inflammatory cytokines such as tumor necrosis factor-alpha (TNF-α), interleukin (IL)-1β and IL-17. These cytokines recruit neutrophils, macrophages, and other immune cells to the site of inflammation, creating a feedback loop of chronic inflammation. Additionally, impaired barrier function in HS lesions facilitates bacterial colonization, which exacerbates immune activation. The immune response, while aimed at clearing infection or damage, ultimately leads to the destruction of hair follicles, formation of sinus tracts, and scarring.Current treatments for HS, including biologics targeting TNF-α and IL-17, aim to modulate these dysregulated immune pathways, offering symptom relief and improved quality of life for patients with this challenging condition.This project seeks to understand if the chronic inflammation in HS is mediated by the PNS and if this may inform the anatomical specificity of disease presentation.  |
| Data Protection/GDPR: I consent to the data included in this submission being collected, processed, and stored by the Anatomical Society. Answer YES or NO in the Box below |
| YES |
| Graphical Images: If you include graphical images you must obtain consent from people appearing in any photos and confirm that you have consent. A consent statement from you must accompany each report if relevant. A short narrative should accompany the image. Answer N/A not applicable, YES or NO in the box below |
| N/A |
| Copyright: If you submit images you must either own the copyright to the image or have gained the explicit permission of the copyright holder for the image to be submitted as part of the report for upload to the Society’s website, Newsletter, social media and so forth. A copyright statement must accompany each report if relevant. Answer N/A not applicable, YES or NO in the box below |
| N/A |
| SIGNATURE | Daniel Johnston | DATE | 27.02.25 |

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