

CONSENT TO PARTICIPATE IN A DOMESTIC DWELLING RESEARCH

Volumetric Dwelling: Volumetric Behavioural Analysis (VBA) of Hong Kong Public Housing Flats, Space, Behaviour, and Design

You are invited to participate in a research study by **Dr Gerhard Bruyns** the School of Design at The Hong Kong Polytechnic University. The project has been approved by the Human Subjects Ethics Subcommittee (HSESC) (or its Delegate) of The Hong Kong Polytechnic University (HSESC Reference Number: **15609922**)

You have been asked to participate in this study to examine potential correlations between designed and occupied housing conditions in public housing flats. Your participation in this study is entirely voluntary. You are advised to read the information below and ask questions about anything you do not understand.

The aim of this study is to compare data documenting behaviour in public dwellings through case study to improve public housing flat design.

The study will require two visits to your flat: a first visit and a follow-up visit. The first visit will consist of a **brief interview (30 minutes)** followed by a **walk-through interview of your flat (30 minutes)** and **3D scanning of the flat interior (10 minutes)**. The follow-up visit will include a short interview (45 minutes) and paperwork completion.

All information related to you will remain confidential and will be identifiable by codes only known to the researcher. If your survey and interview responses are published in any way, your identifying information will be concealed to protect your identity and information. You have every right to withdraw from the study before or during the measurement without penalty of any kind. You have every right to access and correct your personal information supplied for the project.

If you would like to obtain more information about this study, please contact Dr Gerhard Bruyns (tel. no.: email: gerhard.bruyns@polyu.edu.hk). If you have any complaints about the conduct of this research study, please do not hesitate to contact Miss Cherrie Mok, Secretary of the Human Subjects Ethics Sub-Committee of The Hong Kong Polytechnic University in writing (c/o Research Office of the University) stating clearly the responsible person and department of this study as well as the HSESC Reference Number.

Thank you for your interest in participating in this study.

Dr.ir. Gerhard Bruyns

Associate Professor

CONSENT TO PARTICIPATE IN RESEARCH

Volumetric Dwelling: Volumetric Behavioural Analysis (VBA) of Hong Kong Public Housing Flats, Space, Behaviour, and Design

Volumetric Behavioural Data Collection

I _____ hereby consent to participate in the captioned research conducted by Dr Gerhard Bruyns and his deligates.

I am aware that my assigned Field Data Code number (to be entered by researcher) is: _____

Further consent agreements (Tick Boxes to indicate Yes or No):

I consent to be recorded with photographs during data collection: Yes ☐ No ☐

I consent to be audio recorded during data collection: Yes ☐ No ☐

I consent to 3D scan and photograph my flat interior during data collection: Yes ☐ No ☐

I consent to published use of photo, video and/or audio during data collection: Yes ☐ No ☐

I understand that information obtained from this research may be used in future research and published. However, without consent to later publication of my data and/or interview contents, my right to privacy will be retained, i.e. my personal details will not be revealed.

The procedure as set out in the attached information sheet has been fully explained. I understand the benefit and risks involved. I understand conditions of any remuneration for participation in the project, namely that researchers provide honoraria only to participants in both volumetrical and behavioural research. My participation in the project is voluntary. I acknowledge that I have the right to question any part of the procedure and can withdraw at any time without penalty of any kind.

Name of participant _____

Signature of participant _____

Name of Parent or Guardian (if applicable) _____

Signature of Parent or Guardian (if applicable) _____

Name of researcher _____

Signature of researcher _____

Date _____

參與本地住房研究同意書

住房容積率: 香港公共住房空間、設計及住房者行為的容積行為分析

本人誠邀您參與一項由香港理工大學設計學院副教授卓維德博士 (Dr Gerhard Bruyns) 進行的研究，此項目經已獲得香港理工大學人類實驗對象操守小組委員會(HSESC) (或其代表) (HSESC 參考編號: **15609922**)審批。

您接受邀請參加這項研究，以了解公共住房的設計和居住條件之間的潛在相關性。您的參與純屬自願性質，您應該詳細閱讀下列資料，若有不明白的地方請作出提問。

進行這項研究的目的是通過案例研究及比較公共住房的行為數據，以改善公共住房的平面設計。

研究將包括兩次實地家訪：首次探訪及後續訪談。首次探訪將包括**簡單訪問 (30 分鐘)**、**走訪你的公寓 (30 分鐘)** 及**對公寓內部進行 3D 掃描 (10 分鐘)**。後續訪談將包括一節簡短訪談 (45 分鐘) 及完成文件的處理。

所有與您有關的資料將會保密，並且只能通過僅研究人員知道的代碼來識別。如果您的調查和採訪內容以任何方式發布，您的個人資料將被隱藏，以保護您的身份和所提供的訊息。您擁有絕對的權利在進行訪談之前或期間退出，而不會受到任何形式的處罰。您亦有絕對權利獲取和更正為這項目提供的個人資料。

關於這項研究的詳情，您可以與卓維德博士聯繫 (電話號碼：+852 3400 2806，電子郵件: gerhard.bruyns@polyu.edu.hk)。若您有任何與這項研究相關的投訴，請以書面形式發送予香港理工大學人類實驗對象操守小組委員會 Cherrie Mok 女士 (由大學研究辦事處轉交)，並在信中明確列明本研究的負責人和其部門，以及 HSESC 參考編號。

感謝您參與這項研究。

卓維德博士
Dr Gerhard Bruyns

參與研究同意書

住房容積率：香港公共住房空間、設計及住房者行為的容積行為分析

容積行為數據收集

本人，_____，謹此同意參與由卓維德博士 (Dr Gerhard Bruyns) 進行的上述研究。

我也知悉本人獲編配的現場數據分析編號 (由訪談員填寫) 為_____

附加協議 (請在合適的選框指示「是」或「否」)：

我同意在數據收集期間拍攝相片： 是 ☐ 否 ☐

我同意在數據收集期間作錄音紀錄： 是 ☐ 否 ☐

我同意在數據收集期間使用 3D 掃描及相片紀錄本人公寓內部狀況： 是 ☐ 否 ☐

我同意在數據收集期間取得的相片、錄像及/或錄音可用作刊登用途： 是 ☐ 否 ☐

本人明白及理解在本次研究中收集的數據或會在日後相關的研究中使用及刊登。然而，未經本人同意，將不可在刊物中公開本人的數據及訪談內容，我的隱私權將受到保護，本人的個人資料將會保密。

訪談員經已清楚解釋列於參考資料附件中有關這次研究的程序，本人亦明白當中的優點和涉及的風險。本人了解因參與此項目而獲得報酬的先決條件，即研究人員僅會向同時參與容積和行為研究的參與者提供酬金。本人參與這項目屬於自願性質，亦知悉本人有權就研究程序作出提問，並可以在任何時間退出研究而沒有任何處罰。

參加者姓名 _____

參加者簽署 _____

家長或監護人姓名 (如適用) _____

家長或監護人簽署 (如適用) _____

訪談員姓名 _____

訪談員簽署 _____

日期 _____

Behavioural Data Collection

Interview Procedure

The purpose of interviewing project participants is to gather data on how public housing flat architecture in Hong Kong prepares for inhabitant behaviour by conducting a two-steps semi-structured interview (1) by gathering personal data and basic information about the public housing, (2) followed by a “walk-through” interview. However, semi-structured, less formal interviews are acceptable given the following:

1. Upon completion of an appropriate consent agreement, **audio-recording of interviews is preferable**. Project leading staff will provide arrange for recording equipment for use in the field. Researchers should be certain to note equipment and recording log information for the Master Interview Coding Spreadsheet.
2. Open-ended and qualitative comments from participants are welcome, but researchers should attempt to keep on-topic.
3. Interviews should last between 30-60 minutes depending on participants' schedule.

The following are broad questions researchers can use to structure interviews:

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住房容積率: 香港公共住房空間、設計及住房者行為的容積行為分析

| PART A | PERSONAL QUESTIONNAIRE | 個人資料 | |
|----------|---|------------------|------|
| <u>1</u> | Assign case a randomly generated case number. | 為每個案例隨機分配一個案例編號 | 案例編號 |
| <u>2</u> | Elicit basic demographics from the informant: | 受訪者提供基本個人資料： | |
| | 2.1 Full name | 姓名 | |
| | 2.2 Age | 年齡 | |
| | 2.3 Gender (By self-identification) | 性別 (由受訪者提供) | |
| | 2.4 Nationality (By passport or National ID) | 國籍 (以護照或國民身份證為準) | |
| | 2.5 Ethnicity (By self-identification) | 種族 (由受訪者提供) | |

| | | | |
|----------|---|------------------------|--|
| | 2.6 Home Language | 母語 | |
| | 2.7 Occupation | 職業 | |
| <u>3</u> | Ask the informant about members of the household | 向受訪者查詢其家庭成員狀況 | |
| | 3.1 Number of household members | 家庭成員數目 | |
| | 3.2 Basic demographics of the household members (at least age and gender) | 家庭成員基本個人資料 (必須括年齡及性別) | |
| | 3.3 Household relationships (relatives, friends, etc.) | 家庭關係 (如親戚、朋友等) | |
| <u>4</u> | Ask the informant the following questions about their housing tenure: | 向受訪者查詢下列有關住房使用權的問題： | |
| | 4.1 How long have you lived in your current housing? | 你在現有居所居住了多久？ | |
| | 4.2 What year did you first move into your current housing? | 你在那一年遷入現有居所？ | |
| | 4.3 When and how did you apply for public housing? | 你申請公共住房的年份及方式？ | |
| | 4.4 Did anyone live in your current housing before you? | 在你遷入之前，是否有人曾居住於你現有的居所？ | |
| | 4.5 When was your current | 你對上一次為居所進行裝修是那一年？ | |

| | | | |
|---------------|---|--|--|
| | housing last renovated? | | |
| | 4.6 Did you make any changes to room use or programming in your housing? | 你曾否對住房的房間用途或功能進行了任何更改? | |
| | 4.7 Can you please explain or tell me about them? | 若有，你可否解釋或介紹一下更改的細節? | |
| | | | |
| PART B | WALK-THROUGH INTERVIEW | 深入訪談 | |
| Note 註: | The interviewer walks around the apartment with an audio recorder and takes photos (or an assistant) of the spaces and items that the users are describing during the walk-through interview. | 訪談員帶著錄音機在公寓內走動，並對住房者在走訪過程中描述的空間和物品進行拍照 (或由助手進行拍攝)。 | |
| | 1. Gross floor area | 建築面積 | |
| | 2. How did you apply for public housing? | 你如何申請公共住房? | |
| | 3. When did you get the apartment? | 你何時獲分配現有公寓? | |
| | 4. When was the apartment occupied? | 你何時入住這公寓? | |
| | 5. Who and when was/were the first household member(s) to occupy it? | 誰是第一個(批)家庭成員及什麼時候入住? (可多於一人) | |
| | 6. Who and when moved in or out of the apartment over time? | 隨著時間推移，是否有家庭成員曾經搬進或搬出公寓? 若有，是誰及在那一年? | |

| | | | |
|--|--|--|--|
| | <p>7. What is the number of rooms (and identified sub-spaces within the rooms) within this household? <u>From this last question onwards, the interviewer walks towards the identified rooms and code them as room 1, room 2, etc. and will ask the following questions according to the “X” number of rooms identified in question 7.</u></p> | <p>此家庭的房間數量 (並確定房間是否設有子空間)?</p> <p><u>從這一條問題開始，訪談員應走入每一個房間，並將其編碼為房間 1、房間 2 等，並根據問題 7 中指定的房間數量提出以下問題。</u></p> | |
|--|--|--|--|

| PART C | INDIVIDUAL ROOM EXAMINATION | 個別房間分析 | |
|---------------|--|--|--|
| | Room 1 | 房間 1 | |
| | a. New Function of this room, if any. | 此房間的新功能 (如有) | |
| | b. What is the type of use of this room and has it changed from its “original use” vs the “current use”? E.g., Room 1 was originally it was a living room, now it's a bedroom. | 此房間的用途是什麼? 它的「現有用途」與「原始用途」是否發生了變化? 例如，房間 1 原本是客廳，現在是臥室。 | |
| | c. What are the specific changes you can identify in this room since the household members started and continued occupying the house? E.g., For Room 1 we build | 自家庭成員開始並一直居住以來，你記得此房間出現了哪些具體變化? 例如，對於房間 1，我們曾建造兩堵牆來把它及起居室區分出來。 | |

| | | | |
|--|--|---|--|
| | two walls to close the living room. | | |
| | d. How do you (and other household members) use this space (and its possible sub-spaces)? | 你 (和其他家庭成員) 如何使用這個空間 (及其子空間，如有) ? | |
| | e. Why do you (and other household members) use the spaces and sub-spaces in such way? | 你 (和其他家庭成員) 以這種方式使用空間 (及其子空間，如有) 的原因? | |
| | f. Why have you (and other household members) chosen this specific space and items arrangement? | 你 (和其他家庭成員) 採用這種特定的空間和物品佈置的原因? | |
| | g. Why have this space and items been arranged to accommodate yours (and other household members) behaviours and needs? | 你 (和其他家庭成員) 採用這種特定的空間和物品佈置可否滿足你(們)的行為及需要? | |
| | h. What changes have been made to accommodate yours (and other household members) behaviours and needs? Please describe these changes regarding the: - Walls - Ceiling | <p>你曾否因為需要滿足你 (和其他家庭成員) 的行為及需要，而對房間進行改動? 請根據以下各方面描述曾進行的改動：</p> <ul style="list-style-type: none"> - 牆壁 - 天花 - 地板 | |

| | | | |
|--|--|--------------------------------------|--|
| | - Floor | | |
| | i. Have you (or other household members) made these changes on your own or hired someone to do it? | 你 (或其他家庭成員)是否自己進行了這些更改? 或是聘請了其他人來施工? | |

Finally, the second visit involves:

1. Conducting a second interview including:
 - Data validation through review of coded photography documents.
 - Semi-structured questionnaire on housing satisfaction.
 - Questionnaire resulting from previous step.
2. Compensating the participants.

Volumetric Data Collection

3D Scanning and Photographic Documentation Procedure

Intent and Procedure Summary

This section describes data gathering procedure for gathering 3D scanning data from study participants in the study. The primary intent is to gather 3D scanning data depicting all interior spaces of surveyed participants from selected case studies.

Coordination between Behavioural data “walk-through” interview / survey data and 3D scanning data must be achieved in general alignment of participant identification information (Master Field Data Codes, identification data, and address data) and one dataset. The intent of this collecting the data is to gather high-fidelity 3D scans of participants’ interior public housing flats.

Data gathering equipment for this segment of the study includes one or more pieces of LiDAR and photogrammetry-based 3D scanning equipment. Project leaders will provide either the Leica BLK2Go or an equivalent.

The procedure for collecting 3D Scanning data is as follows:

| Procedure Step | Checkbox |
|--|--------------------------|
| 1. Establish and verify schedule for data collection. | |
| a. Establish date and time for meeting with participants | <input type="checkbox"/> |
| b. Coordinate with researchers volumetric data gathering if possible. | <input type="checkbox"/> |
| 2. Meet with participants and conduct pre-data gathering procedure. | |
| a. Prepare hard and soft copies of the Field Work Document for data gathering location. Select between English and Chinese versions of hard copies as appropriate for use in the field, but digitally store both English and Chinese response information in a single Field Work Document. | <input type="checkbox"/> |
| b. Review relevant project information sheets with participants and secure the required, completed consent form for each type of data gathering. | <input type="checkbox"/> |
| c. Record participants’ Field Data Code and Identifying Information on the Field Work Document. | <input type="checkbox"/> |
| d. Verify which, if any, rooms or spaces participants do not want to have scanned and note this information in the Field Work Document. | <input type="checkbox"/> |
| 3. Gather Data | |
| a. Ask participants to turn on all interior lighting in the house to be surveyed, to remove or conceal any articles they do not want to be visible in the scan, and to move any obstructions and open doors. | <input type="checkbox"/> |
| b. Conduct the scan according to equipment specifications and training. | <input type="checkbox"/> |
| c. Upon completion of the scan, review scan data with the participant using available field visualization equipment. Provide participants the opportunity to | <input type="checkbox"/> |

| | | |
|-------------------------------|--|--------------------------|
| | note any concerns with scan data and annotate these concerns in the Field Work Document. | |
| 3. Post data-gathering | | |
| | a. Transfer 3D scan data from the field scanning unit to digital storage using the equipment's proprietary encoding software. | <input type="checkbox"/> |
| | b. Save an unaltered copy of the scan data in a point cloud (.e57) format. Place this file in the Tertiary "Scan Data" folder in a folder titled "Original Point Cloud." Name the file with the participants' Field Data Code. | <input type="checkbox"/> |
| | c. De-noise and crop point clouds as instructed by Project Leaders. Save a copy of the denoised point cloud in a point cloud (.pts) format. Place this file in the Tertiary "Scan Data" folder in a folder titled "Edited Point Cloud." Name the file with the participants' Field Data Code. | <input type="checkbox"/> |
| | d. Construct NURBS models from point clouds as instructed by Project Leaders. Save a copy of the NURBS model in Rhinoceros 3D format. Place this file in the Tertiary "Scan Data" folder in a folder titled "NURBS Model." Name the file with the participants' Field Data Code. | <input type="checkbox"/> |
| | e. Review data gathering contents and storage structure with project leaders for further instruction on data processing and evaluation. | <input type="checkbox"/> |

ADDITIONAL ROOMS

Case _____ date: _____

| PART C | INDIVIDUAL ROOM EXAMINATION | 個別房間分析 | |
|-------------------|---|--|--|
| | Room _____ | 房間_____ | |
| | j. New Function of this room, if any. | 此房間的新功能 (如有) | |
| | k. What is the type of use of this room and has it changed from its "original use" vs the "current use"? E.g., Room 1 was originally it was a living room, now it's a bedroom. | 此房間的用途是什麼? 它的「現有用途」與「原始用途」是否發生了變化? 例如, 房間 1 原本是客廳, 現在是臥室。 | |
| | l. What are the specific changes you can identify in this room since the household members started and continued occupying the house? E.g., For Room 1 we build two walls to close the living room. | 自家庭成員開始並一直居住以來, 你記得此房間出現了哪些具體變化? 例如, 對於房間 1, 我們曾建造兩堵牆來把它及起居室區分出來。 | |
| | m. How do you (and other household members) use this space (and its possible sub-spaces)? | 你 (和其他家庭成員) 如何使用這個空間 (及其子空間, 如有)? | |
| | n. Why do you (and other household members) use the spaces and sub-spaces in such way? | 你 (和其他家庭成員) 以這種方式使用空間 (及其子空間, 如有) 的原因? | |
| | o. Why have you (and other household | 你 (和其他家庭成員) 採用這種特定的空間和物品佈置的原因? | |

| | | | |
|--|---|--|--|
| | members) chosen this specific space and items arrangement? | | |
| | p. Why have this space and items been arranged to accommodate yours (and other household members) behaviours and needs? | 你 (和其他家庭成員) 採用這種特定的空間和物品佈置可否滿足你(們)的行為及需要? | |
| | q. What changes have been made to accommodate yours (and other household members) behaviours and needs? Please describe these changes regarding the: <ul style="list-style-type: none"> - Walls - Ceiling - Floor | <p>你曾否因為需要滿足你 (和其他家庭成員)的行為及需要，而對房間進行改動? 請根據以下各方面描述曾進行的改動：</p> <ul style="list-style-type: none"> - 牆壁 - 天花 - 地板 | |
| | r. Have you (or other household members) made these changes on your own or hired someone to do it? | 你 (或其他家庭成員)是否自己進行了這些更改? 或是聘請了其他人來施工? | |