**Partner’s info collection form**

Call/topic: **HORIZON-WIDERA-2025-01-ACCESS-01**

Proposal acronym: **SMART**

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# Administrative Info

|  |  |
| --- | --- |
| **PIC[[1]](#footnote-1): 9999075038** | **Legal Name of entity:The Hebrew University of Jerusalem**  **Acronym of legal entity:HUJI** |
| **Country:Israel** | **Official Logo (high resolution):** |

# Departments carrying out the proposed work

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *The information serves mainly statistical purposes. For determining the eligibility of the proposal, the official address of the organisation is taken into account.*  **Department 1** | | | | |  |
| Department name | Institute of Biomedical and Oral Research (IBOR), The Hebrew University of Jerusalem (HUJI), Israel | | | not applicable | |
|  | Same as organisation address | | |  | |
| Street | The Hebrew University of Jerusalem, Ein-Kerem POB 12272 | | |  | |
|  | | | | | |
| Town | Jerusalem | | |  | |
|  | | | | | |
| Postcode | 9112102 | |  | | |
|  | | | | | |
| Country | Israel | | |  | |
|  | | | | | |
| *Links with other participants*  *Please indicate if there are dependencies with other participants of the proposal.*  *Two participants (legal entities) are dependent on each other where there is a controlling relationship between them:*  *\* A legal entity is under the same direct or indirect control as another legal entity;or*  *\* A legal entity directly or indirectly controls another legal entity;or*  *\* A legal entity is directly or indirectly controlled by another legal entity.Control:*  *Legal entity A controls legal entity B if:*  *\* A, directly or indirectly, holds more than 50% of the nominal value of the issued share capital or a majority of the voting rights of the shareholders or associates of B, or*  *\* A, directly or indirectly, holds in fact or in law the decision-making powers in B.*  *The following relationships between legal entities shall not in themselves be deemed to constitute controlling relationships:*  *(a) the same public investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50 % of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates;*  *(b) the legal entities concerned are owned or supervised by the same public body.* | | | | | |  |
| ***Type of link*** | | ***Participant*** | | | |
| *[*Same group*]*  *[*Controls*]*  *[*Is controlled by*]* | |  | | | |

# Main contact person

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| *It is the main scientist or team leader in charge of the proposal for the participant. For participant number 1 (the coordinator), this will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to negotiations). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in Step 4 of the Submission wizard.* | | | | | | | | | | | | | |
| Title: | |  | | Gender: | | | | Woman | Man | | | | Non binary |
|  | | | | | | | | | | | | | |
| First name: Nataly  E-mail: natalyk@ekmd.huji.ac.il | | | | | | Last name: Kravchenko-Balasha | | | | | | | |
|  | | | | | | | | | | | | | |
| Position in org. | | Associate professor, Director of the Bio-Medicine Graduate Program, The Institute of Biomedical and Oral Research (IBOR) | | | | | | | | | |  | |
|  | | | | | | | | | | | | | |
| Department | | Institute of Biomedical and Oral Research (IBOR), The Hebrew University of Jerusalem (HUJI) | | | | | | | | | | Same as organisation | |
|  | | | Same as organisation address | | | | | | | |  | | |
| Street | | The Hebrew University of Jerusalem, Ein-Kerem POB 12272 | | | | | | | | | |  | |
|  | | | | | | | | | | | | | |
| Town | | Jerusalem | | | | | | Post code | 9112102 | | |  | |
|  | | | | | | | | | | | | | |
| Country | | Israel | | | | | | | | | |  | |
|  | | | | | | | | | | | | | |
| Website | | https://natalykbalashalab.huji.ac.il/ | | | | | | | | | |  | |
|  | | | | | | | | | | | | | |
|  | Phone 1 | 972586130500 | | | Phone 2 | |  | | |  | |  | |
| *Other contact persons* | |  | | |  | |  | | |  | |  | |
| **First name** | | **Last name** | | | | | **e-mail** | | | | | **Phone** | |
|  | |  | | | | |  | | | | |  | |
|  | |  | | | | |  | | | | |  | |

# Researchers involved in the proposal

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Please, include also the main contact person, if a researcher*** | | | | | | | | | |
| **Title** | **First Name** | **Last Name** | **Gender** | **Nationality** | **E-mail** | **Career stage[[2]](#footnote-2)** | **Role of researcher (in the project)** | **Reference Identifier** | **Type of identifier** |
| Dr  Mr  Ms  Mrs  Prof | Nataly | Kravchenko-Balasha | Woman  Man  Non-binary | Israeli | natalyk@ekmd.huji.ac.il | Cat A  Cat B  Cat C  Cat D | Leading  Team member | 0000-0001-6943-7479 | ORCID  Researcher Id  Other - specify |
| Dr  Mr  Ms  Mrs  Prof | Ariel | Rubinstein | Woman  Man  Non-binary | Israeli | amrubinstein@gmail.com | Cat A  Cat B  Cat C  Cat D | Leading  Team member | [0009-0009-5692-7829](https://orcid.org/0009-0009-5692-7829) | ORCID  Researcher Id  Other - specify |
|  |  |  |  |  |  |  |  |  |  |

# Role of Participating organization in the project *(more than one options allowed)*:

|  |
| --- |
| Project management;  Communication, dissemination and engagement;  Provision of research and technology infrastructure;  Co-definition of research and market needs;  Civil society representative;  Policy maker or regulator, incl. standardization body;  Research performer;  Technology developer;  Testing/validation of approaches and ideas;  Prototyping and demonstration;  IPR management incl. technology transfer;  Public procurer of results;  Private buyer of results;  Finance provider (public or private);  Education and training;  Contributions from the social sciences or/and the humanities;  Other;  If other, please specify: (Maximum number of characters allowed: 50) |

# List of up to 5 publications, datasets, software, goods, services, or any other achievements relevant to the call content.

|  |  |
| --- | --- |
| **Type of achievement** | **Short Description (Max 500 characters)** |
| **[Publication]**  **[Dataset]**  **[Software]**  **[Good]**  **[Service]**  **[Other achievement]** | ***Key elements of the achievement, including a short qualitative assessment of its impact and (where available) its digital object identifier (DOI) or other type of persistent identifier (PID).***  ***Publications, in particular journal articles, are expected to be open access. Datasets are expected to be FAIR and ‘as open as possible, as closed as necessary’.*** |
| Daher-Ghanem N, Raveh S, Kumar A, Rubinstein AM, Solgi H, Sharon S, Tair JA, Fleissig Y, Feldman J, Rottenberg Y, Popovtzer A, Siman P, Domb AJ, **Kravchenko-Balasha NPI**. Effective head and neck cancer treatment combines radiation and local extended cisplatin release. *J Control Release, 2025* Aug 10,384. <https://pubmed.ncbi.nlm.nih.gov/40466741> | A novel computational approach (CSSS) to quantify molecular heterogeneity in response to chemotherapy using proteomic data from patient-derived samples. Enables education on data-driven modeling of treatment response and its correlation with clinical outcomes***.***  Introduces CSSS to assess intra-tumor variation under perturbation. Teaches students to integrate omics and systems biology to study chemotherapy effects. Impactful for training in precision oncology. |
| Heba Alkhatib, Ariel M. Rubinstein, Swetha Vasudevan, Efrat Flashner-Abramson, Shira Stefansky, Sangita Roy Chowdhury, Solomon Oguche, Tamar Peretz-Yablonsky, Avital Granit, Zvi Granot, Ittai Ben-Porath, Kim Sheva, Jon Feldman, Noa E. Cohen, Amichay Meirovitz and **Kravchenko-Balasha NPI**. Computational quantification and characterization of independently evolving cellular subpopulations within tumors is critical to inhibit anti-cancer therapy resistance. *Genome Med. 2022* 14, 120 . <https://doi.org/10.1186/s13073-022-01121-y>. | Demonstrates how CSSS can predict therapeutic outcomes at the single-cell level usign single-cell proteomics. Relevant for computational education on personalized therapy design.  Empowers students to simulate treatment response based on single-cell heterogeneity. Highlights predictive modeling of tumor evolution. Useful for teaching advanced applications. Can be extended to spatial transcriptomics |
| Heba Alkhatib, Conage-Pough, Jason , Chowdhury, Sangita Roy , Shian, Denen , Zaid, Deema , Rubinstein, Ariel M. , Sonnenblick, Amir , Peretz-Yablonsky, Tamar , Granit, Avital , Carmon, Einat , Kohale, Ishwar N, Boughey, Judy C, Goetz, Matthew P, Wang, Liewei , White, Forest M, and **Kravchenko-Balasha, NPI**. [“Patient-Specific Signaling Signatures Predict Optimal Therapeutic Combinations For Triple Negative Breast Cancer”](https://natalykbalashalab.huji.ac.il/publications/patient-specific-signaling-signatures-predict-optimal). *Molecular Cancer, 2024*. <https://molecular-cancer.biomedcentral.com/articles/10.1186/s12943-023-01921-9> | Patient-specific phospho-proteomics used to define unbalanced signaling processes. Allows computational analysis of signaling network dysregulation for teaching systems-level insights into cancer biology and other pathologies.  Highlights patient-specific signaling logic in fresh tumor tissues. Trains students on experimental-computational pipeline to extract meaningful features for therapy. |
| Daher-Ghanem N, Sharon S, Tao D, Sun Z, Rosales W, Rajamanickam V, Meng R, Kaur L, Bernard B, Piening B, Couey M, Gough MJ, **Kravchenko-Balasha, NPI**. The responses of HNSCC patients to immunotherapy are shown by two novel co-expression patterns. ***npj Precis Oncol, 2025*** Jul 1;9(1):1–10.<https://www.nature.com/articles/s41698-025-00983-w> | Uses the secretome of patient-derived tissues to predict immune responses. Enables computational modeling of immune modulation in personalized settings, relevant to immuno-oncology education.  Guides students to simulate cytokine-based interactions. Links secreted proteins to immune phenotypes. Builds bridge between wet-lab and computational immune profiling. |
| Vasudevan S**S**, Flashner-Abramson E**S**, Remacle F**C**, Levine RDPI, **Kravchenko-Balasha NPI.** Personalized disease signatures through information-theoretic compaction of big cancer data. ***Proc Natl Acad Sci U S A***. **2018** Jul 24;115 (30):7694-7699. doi: 10.1073/pnas.1804214115 | Introduces an approach using transcriptomics to classify patients based on combinations of active signaling processes, rather than single biomarkers. Enhances educational training in pathway-centric disease modeling.  Supports students in identifying patient subtypes using surprisal analysis and transcriptomic signatures. Demonstrates robust prediction of therapeutic vulnerability. |

# List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal

|  |  |
| --- | --- |
| **Name of the project or activity** | **Short Description (Max 500 characters)** |
| **June 2019- June 2024** Kravchenko-Balasha, N, Forest White  **National Institutes of Health (NIH), USA**  Title of project: Identification of personalized adaptive response mechanisms in breast cancer by information theory and proteomics | Developed a thermodynamics-based framework to resolve tumor-specific signaling networks and define processes driving resistance in PDX models. The project validated patient-specific drug combinations using proteomics, surprisal analysis, and resistant vs. sensitive tumors—key for translational precision oncology. |
| **October 2019- October 2025** Kravchenko-Balasha, N  **Israel Science Foundation (ISF)**  Title of project: Deciphering of intra-tumor and inter-patient signaling heterogeneity in cancer for the rational design of patient specific drug cocktails | Created a computational method to resolve inter- and intra-tumor heterogeneity using proteogenomic data, enabling prediction of patient-specific drug cocktails. Introduced the PaSSS methodology, later validated in vitro and in vivo, as a robust foundation for personalized treatment design. |
| **Feb 2023–Feb 2026**, Kravchenko-Balasha, N, Grunewald, M  **Israel Ministry of Science and Technology (MOST)** Title of project: Patient-derived tumor organoids technology as an alternative to preclinical drug testing in animal models | Developed an integrated experimental-computational platform using patient-derived organoids from head and neck squamous cell carcinoma (HNSCC) to evaluate therapy response. Combined live imaging, CSSS (cell-specific signaling signatures), and immune profiling to design and validate personalized treatment strategies. |
| **Sep 2023–Sep 2026**, Kravchenko-Balasha, N, Brors, B, Cohen, N **DKFZ–MOST Joint Program in Cancer Research** Title of project: Translating inter-tumor and spatial variability in ovarian cancer into individualized therapies | Combined organoid platforms and spatial proteomics to decode tumor spread across peritoneum. Integrated PaSSS analysis with machine learning to design location-specific personalized therapies, showcasing a cutting-edge approach for heterogeneous solid tumors. |
| **June 2017- June 2019** Kravchenko-Balasha, N, Sonnenblick, A  **Kamin Program (Israel Innovation Authority)**  Title of project: Design of patient-specific treatments using information theory. | Designed patient-specific therapies based on unique unbalanced proteomic codes. Integrated phosphoproteomics, surprisal analysis, and in vivo validation to collapse cancer-specific imbalances. Emphasized proteomic diversity and translation to resistant breast tumors. |

# Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work

|  |  |
| --- | --- |
| **Name of infrastructure or equipment** | **Short Description (Max 300 characters)** |
| UV-Vis Spectroscopy | Quantifies molecular absorption in UV and visible ranges. Used in training modules and compound detection tasks relevant to computational-experimental workflows. Located in our Institute (IBOR intra-departmental Core Research Facility). |
| Mass Spectrometry | Used for molecular identification, quantification, and omics profiling. Supports training in systems biology, compound screening, and personalized diagnostics. Located at the Hebrew University Ein Karem CRF (Core Research Facilities). |
| Fluorescence and Phosphorescence Spectroscopy | Used to analyze molecular emissions and dynamics. Trains students in protein and compound interaction studies relevant to perturbation-response modeling. Located in our Institute (IBOR intra-departmental Core Research Facility). |
| PCR Platforms | Enables gene expression analysis, mutation detection, and nucleic acid quantification. Relevant to data generation for integration into modeling pipelines. Located in our Institute (IBOR intra-departmental Core Research Facility). |
| Metabolomics Platform (Q-Exactive Plus LC-MS) | High-resolution LC-MS for multi-class metabolite profiling. Critical for linking cellular state to molecular phenotype in SMART education modules. Located at the Hebrew University Ein Karem CRF (Core Research Facilities). |

# Gender Equality Plan

**Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?**

**Yes**

[**https://womeninacademy.huji.ac.il/sites/default/files/gender/files/promoting\_gender\_equality\_at\_the\_hebrew\_university\_of\_jerusalem.pdf\_nglyt.pdf**](https://womeninacademy.huji.ac.il/sites/default/files/gender/files/promoting_gender_equality_at_the_hebrew_university_of_jerusalem.pdf_nglyt.pdf)

HUJI maintains a comprehensive and operational Gender Equality framework aligned with European Commission standards. The university’s Gender Equity Committee oversees strategic implementation across all faculties, ensuring transparency, accountability, and actionable goals. HUJI’s published plan includes:  
- Dedicated human resources to implement and monitor gender equity policies  
- Annual disaggregated data reporting on gender representation in staffing and leadership  
- Structured training programs on unconscious bias, inclusive leadership, and respectful conduct  
- Specific measures to support work-life balance, mentoring programs for underrepresented groups, and equality in hiring and promotion procedures  
- Institutional efforts to integrate gender-sensitive approaches into curriculum and research activities  
 **The policy is endorsed by senior university leadership and made publicly available, demonstrating HUJI's commitment to creating a fair, inclusive academic environment**

**Minimum process-related requirements (building blocks) for a GEP**

**- Publication:** formal document published on the institution's website and signed by the top management

**- Dedicated resources:** commitment of human resources and gender expertise to implement it.

**- Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.

**- Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.

**-** Content-wise, recommended areas to be covered and addressed via concrete measures and targets are:

**♦ work-life balance and organisational culture;**

**♦ gender balance in leadership and decision-making;**

**♦ gender equality in recruitment and career progression;**

**♦ integration of the gender dimension into research and teaching content;**

**♦ measures against gender-based violence including sexual harassment.**

# Involved Third Parties

|  |  |
| --- | --- |
| **Does the participant plan to subcontract**[[3]](#footnote-3) **certain tasks (please note that core tasks of the project should not be sub-contracted)** | **N** |
| If **yes**, please describe and justify the tasks to be subcontracted. | |
| **Does the participant envisage that part of its work is performed by Affiliated Entities**[[4]](#footnote-4) (**Article 8 of the Corporate Model Grant Agreement)** | **N** |
| If **yes**, please describe the third party, the link of the participant to the third party, and describe and justify the foreseen tasks to be performed by the third party. | |
| **Does the participant envisage the use of contributions in kind provided by third parties**[[5]](#footnote-5) **(Articles 9.2 of the Corporate Model Grant Agreement)** | **N** |
| If **yes**, please describe the third party(ies) and its/ their contribution(s). | |
| **Does the participant envisage that part of the work is performed by Associated partners**[[6]](#footnote-6) **(Article 9.1 of the Corporate Model Grant Agreement)?** | **N** |
| If **yes**, please describe the Associated Partner(s) and their contributions | |
| **Does the participant envisage that part of the work is performed by international organisations**[[7]](#footnote-7) **(Article 10.2 of the Corporate Model Grant Agreement)?** | **N** |
| If **yes**, please describe the International Partner(s) and their contributions | |

1. A Participant Identification Code (PIC) is **a 9-digit number that serves as a unique identifier for legal entities participating in European funding programmes**. A PIC number has no expiry date. If your organization does not have a PIC, you can get it [**here**](https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/participant-register). [↑](#footnote-ref-1)
2. Career stages as defined in Frascati 2015 manual:

   **Category A –** Top grade researcher: the single highest grade/post at which research is normally conducted. Example: ‘Full professor’ or ‘Director of research’.

   **Category B** – Senior researcher: Researchers working in positions not as senior as top position but more senior than newly qualified doctoral graduates (IsCED level 8). Examples: ‘associate professor’ or ‘senior researcher’ or ‘principal investigator’.

   **Category C –** Recognised researcher: the first grade/post into which a newly qualified doctoral graduate would normally be recruited. Examples: ‘assistant professor’, ‘investigator’ or ‘post-doctoral fellow’.

   **Category D –** First stage researcher: Either doctoral students at the IsCED level 8 who are engaged as researchers, or researchers working in posts that do not normally require a doctorate degree. Examples: ‘PhD students’ or ‘junior researchers’ (without a PhD). [↑](#footnote-ref-2)
3. Subcontractors may participate in the action, if necessary for the implementation. Subcontractors must implement their action tasks in accordance with Article 11. The costs for the subcontracted tasks (invoiced price from the subcontractor) are eligible and may be charged by the beneficiaries, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries’ costs. [↑](#footnote-ref-3)
4. Affiliated entities can charge costs and contributions to the action under the same conditions as the beneficiaries and must implement the action tasks attributed to them in Annex 1 in accordance with Article 11. Their costs and contributions will be included in Annex 2 and will be taken into account for the calculation of the grant. The beneficiaries must ensure that all their obligations under this Agreement also apply to their affiliated entities. The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the affiliated entities. Breaches by affiliated entities will be handled in the same manner as breaches by beneficiaries. Recovery of undue amounts will be handled through the beneficiaries. If the granting authority requires joint and several liability of affiliated entities (see Data Sheet, Point 4.4), they must sign the declaration set out in Annex 3a and may be held liable in case of enforced recoveries against their beneficiaries (see Article 22.2 and 22.4). [↑](#footnote-ref-4)
5. Other third parties may give in-kind contributions to the action (i.e. personnel, equipment, other goods, works and services, etc. which are free-of-charge), if necessary for the implementation. Third parties giving in-kind contributions do not implement any action tasks. They may not charge costs or contributions to the action and the costs for the in-kind contributions are not eligible. [↑](#footnote-ref-5)
6. Associated partners must implement the action tasks attributed to them in Annex 1 in accordance with Article 11. They may not charge costs or contributions to the action and the costs for their tasks are not eligible. [↑](#footnote-ref-6)
7. Participants which are established in a non-EU country [↑](#footnote-ref-7)